BEFORE
THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA

Docket No. 2021-18-C

Application of Starlink Services, LLC for Designation as an Eligible Telecommunications Carrier for Purposes of Receiving Rural Digital Opportunity Fund ("RDOF") Support, and a Request for Expedited Consideration	**Direct Testimony of Matt Johnson** **On Behalf of** **Starlink Services, LLC**

INTRODUCTION AND SUMMARY

Q. PLEASE STATE YOUR NAME, PLACE OF EMPLOYMENT AND BUSINESS ADDRESS.

A. My name is Matt Johnson. I am employed by Space Exploration Technologies Corp. ("SpaceX"), the parent company of the Applicant Starlink Services, LLC ("Starlink Services"), as a Senior Business Operations Analyst. My business address is 1 Rocket Rd, Hawthorne, CA 90250.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. I have a bachelor's degree from the University of North Carolina at Charlotte.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND BACKGROUND.

A. In my professional capacity, I have served a variety of telecommunications service providers for more than twenty years in roles ranging from product management, business development, project management, and finance.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. No.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE UTILITY REGULATORY COMMISSIONS IN OTHER STATES?

A. Yes. I provided written testimony in Docket No. 21-2624-01 before the Utah Public Service Commission on February 5, 2021.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to discuss the qualifications of the Applicant, Starlink Services, to be designated as an Eligible Telecommunications Carrier ("E.T.C.") for the purpose of receiving high-cost universal service support from the Rural Digital Opportunity Fund ("RDOF").

Q. DOES THE SOUTH CAROLINA PUBLIC SERVICE COMMISSION HAVE THE AUTHORITY TO DESIGNATE STARLINK AS AN ETC?

A. Yes. Pursuant to 47 U.S.C. § 214(e)(2), state utility regulatory commissions have authority to designate a qualified carrier as an E.T.C. Specifically, Section 214(e)(2) authorizes a State commission to "designate a common carrier that meets the requirements" of an E.T.C. "for a service area designated by the State Commission." This Commission has previously exercised its authority to designate qualified carriers as E.T.C.s.

Q. PLEASE DESCRIBE SPACEX AS IT RELATES TO THIS APPLICATION.

A. SpaceX is a Delaware corporation with its principal place of business located at 1 Rocket Road, Hawthorne, California 90250. SpaceX was formed in 2002 with the goal of revolutionizing space technologies. SpaceX designs, manufactures, and launches the world's most advanced rockets, spacecraft, and satellites, and now offers broadband internet service over the world's largest satellite constellation. SpaceX is leveraging its proven track record of rapid innovation and experience building rockets and spacecraft to deploy Starlink, a space-based broadband internet system capable of providing truly low latency, high throughput service in even the most remote areas of the country.

Q. PLEASE DESCRIBE STARLINK SERVICES.

A. Starlink Services is a Delaware limited liability company with its principal place of business located at 1 Rocket Road, Hawthorne, California 90250. Starlink Services is a wholly owned subsidiary of SpaceX. It is seeking to operate in 35 states as an E.T.C. to provide satellite broadband internet access and voice over Internet protocol ("VoIP") service.

Q. HAS STARLINK SERVICES BEEN DESIGNATED AN ETC IN ANY OTHER STATE FOR PURPOSES OF RECEIVING RDOF SUPPORT?

A. No.

Q. IS STARLINK SERVICES SEEKING ETC DESIGNATION IN ANY OTHER STATE FOR PURPOSES OF RECEIVING RDOF SUPPORT?

A. As the winning bidder in the RDOF Phase 1 auction in 35 states, Starlink Services has, in addition to South Carolina, filed requests seeking E.T.C. designations in the states of Arkansas, California, Colorado, Florida, Georgia, Hawaii, Idaho, Illinois, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Montana, Nevada, New Jersey, New Mexico, North Carolina, Oregon, Pennsylvania, Utah, Vermont, Washington and Wyoming. The states of Alabama, Connecticut, New Hampshire, New York, Tennessee, Virginia, and West Virginia have disclaimed jurisdiction over granting E.T.C. status, and Starlink Services has petitioned the Federal Communications Commission ("F.C.C.") for an E.T.C. designation for those states pursuant to 47 U.S.C. § 214(e)(6) and 47 C.F.R. § 54.202.

SATELLITE TECHNOLOGY AT ISSUE IN THE APPLICATION

Q. PLEASE DISCUSS THE SATELLITE CONSTELLATION REFERENCED ABOVE.

A. In 2018, the F.C.C. authorized SpaceX to deploy and operate Starlink, a revolutionary constellation of more than 4,400 Non-Geostationary Orbit ("NGSO") satellites in low Earth orbit. In issuing this authorization, the F.C.C. recognized SpaceX's ability "to bring high speed, reliable, and affordable broadband service to consumers in the United States and around the world, including areas underserved or currently unserved by existing networks."[1]

Since it received F.C.C. satellite authorization in 2018, SpaceX has successfully deployed more than 1,000 Starlink satellites—the largest satellite constellation in history—and demonstrated its ability to deliver high-quality broadband internet access to thousands of users. Since late October 2020, when we announced availability of our public beta, SpaceX has grown its Starlink service area tenfold and is currently serving nearly 1,000 different geographic regions in the United States, Canada, and the United Kingdom with a combined area of nearly 400,000 km^2—with thousands of additional service regions planned in the coming months and years as we scale our constellation.

SpaceX delivers Starlink service to our customers by coordinating the delivery of thousands of radio-frequency ("R.F.") beams across our satellite fleet to dynamically allocate connections between the satellites in space and customers on the ground. The network currently divides the earth into virtual serving areas, pairing each active service

[1] *In re Space Exploration Holdings, LLC Application for Approval of Orbital Deployment and Operating Authority for the SpaceX NGSO Satellite System*, Memorandum Opinion, Order and Authorization, 33 FCC Rcd 3391, para. 1 (2018).

area with resources from the Starlink network. Operating our satellites 65x times closer to the earth than conventional geostationary providers has allowed the first generation of SpaceX satellites to allocate resources more precisely than conventional geostationary satellites, enabling Starlink Services to deliver high speed, low latency broadband internet services to the communities of South Carolina that we have committed to serve.

Q. HOW WILL STARLINK UTILIZE THIS SATELLITE CONSTELLATION TO PROVIDE SERVICE TO END USERS?

A. The Starlink satellite constellation discussed above provides broadband internet service using Ku- and Ka-band spectrum. Starlink Services will utilize the Starlink satellite constellation, in combination with ground-based equipment, to provide Internet Protocol ("I.P.") connectivity between customer premises equipment (over its licensed Ku-band spectrum) and its gateways (over its licensed Ka-band spectrum). Consumer data will travel via terrestrial fiber from regional gateway sites to internet Points of Presence ("PoPs") where traffic enters into the internet.

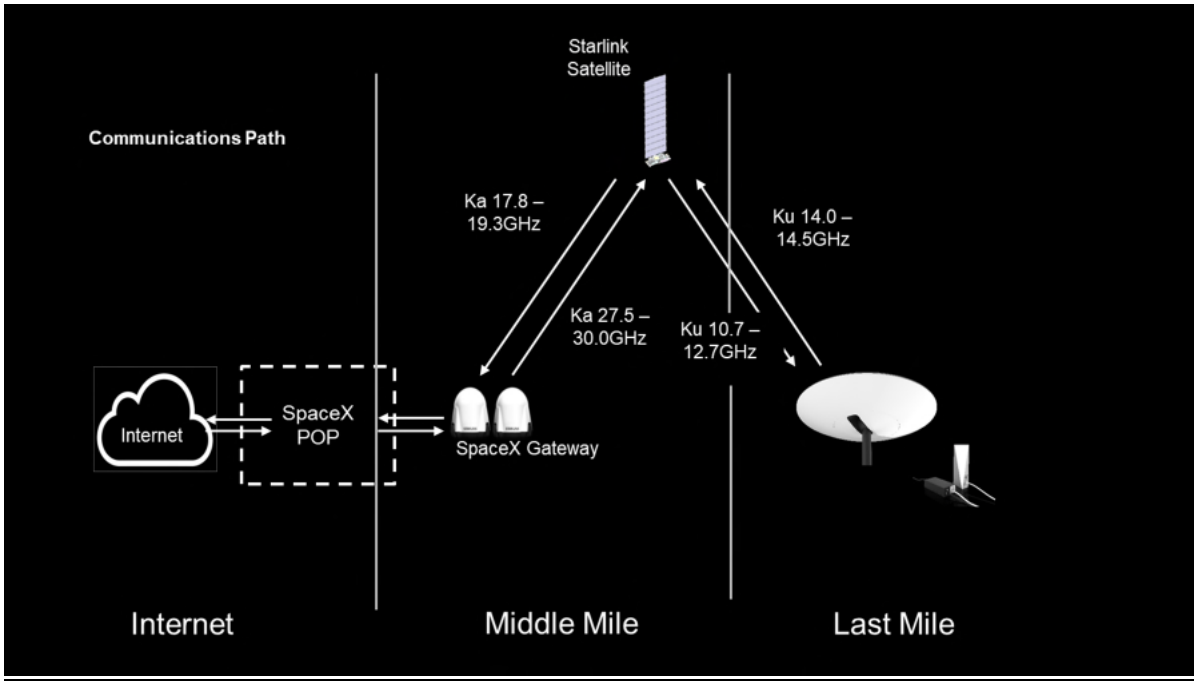
Our customers access the Starlink network using an advanced phased-array terminal designed to connect directly to the satellite's Ku-band RF beam assigned to serve the area in which the customer is located. Designed and manufactured by SpaceX, our advanced phased-array terminal, nicknamed "Dishy," utilizes electronically steered beams rather than mechanical means to communicate with our constantly moving satellites and their current position in space. Electronic beam steering enables millisecond-level coordination between our customer equipment and our satellite fleet and equips the Starlink

system to react and optimize resources to meet our customer's exact needs as they change minute to minute.

As customers communicate with our fleet of satellites, the Starlink network will direct customer communications to the nearest optimal Starlink gateway location. A Starlink gateway consists of several Ka- band antenna, also designed and manufactured by SpaceX, directly connected to SpaceX internet PoPs around the United States. The Starlink network is designed such that there are always multiple gateways in view of our Starlink satellites.

The diagram below summarizes these components of the network.

Figure 1 – Starlink Network Architecture



Q. DOES SPACEX CURRENTLY OFFER SERVICE TO CUSTOMERS IN THE UNITED STATES?

A. Yes. SpaceX currently offers select users beta consumer-grade broadband internet service in Washington, Montana, Oregon, Michigan, Idaho, Wisconsin, Maine, and North Dakota. In addition, the town of Marysville, Ohio, and Virginia's Wise County Public School District have signed up to receive Starlink broadband internet service.

Q. DOES SPACEX OFFER SERVICE TO CUSTOMERS OUTSIDE OF THE UNITED STATES?

A. Yes. SpaceX recently expanded public access to its beta consumer-grade broadband internet service to select consumers in Canada and the United Kingdom. The first in Canada to receive Starlink broadband internet access service was the rural indigenous community of Pikangikum First Nation. Pikangikum is a community of 400 to 500 households with a population of less than 3,000, located approximately 3,000 kilometers northeast of Winnipeg, Canada.

SpaceX plans to expand offerings throughout the United States and the world and to date has registered Starlink subsidiaries in several countries.

Q. IS SATELLITE TECHNOLOGY PARTICULARLY WELL SUITED TO PROVIDE SERVICE IN RURAL AREAS?

A. Yes. Satellite technology does not require the same amount of fixed ground infrastructure to the customer premise as is required by technologies like copper wire, coaxial cable, or fiber optic networks. Additionally, unlike past satellite efforts, Starlink is unique in a number of ways all leading towards an enhanced ability to provide high speed, low latency services to communities that have been previously underserved or not reachable at all by conventional means including prior efforts to serve these areas with conventional

geostationary satellites. SpaceX's effort represents a deeply integrated approach combining advances in launch capacity, satellite hardware, consumer access terminals, ground stations (or gateways) and all the software and technology needed to successfully deliver services from low Earth orbit. Operating from low Earth orbit enables Starlink satellites to be 65 times closer to its customers than traditional satellites. Our proximity unlocks latency and bandwidth capabilities similar to a terrestrial network but without the constraints of building fixed, dedicated infrastructure to all of our customers.

Q. WILL THE STARLINK SATELLITE CONSTELLATION PROVIDE SUPERIOR COVERAGE AND SERVICE COMPARED TO EXISTING SATELLITE PROVIDERS?

A. Traditional satellite services are delivered from stationary satellites that take many years to design, construct and launch. Once in orbit, these conventional satellites are limited by the extreme distances that must be covered to reach customers. This results in higher latencies and lower throughput. In contrast, SpaceX's capabilities are not just found in the design of its satellites, but in the entire system combining our proven launch ability, our gateway ground stations, our consumer terminals and, importantly, the software that connects all of these components together in precise orchestration. This tight coupling of each individual component enables us to direct resources to customers despite changing conditions that might exist on the ground. This makes Starlink unique compared to both conventional satellite and terrestrial networks because these conventional architectures are often constrained by static, unmoving resources such as conventional satellite's fixed location in space or in fixed investments in fiber in the terrestrial case.

Starlink's network architecture has no significant variations by state, region, or other criteria where it has gateway sites and PoPs already in place, beyond standard regional configurations for standalone voice services such as localized phone numbers and emergency service integrations. Starlink Services may also offer different language support depending on the region served.

RURAL DIGITAL OPPORTUNITY FUND

Q. PLEASE DESCRIBE THE RURAL DIGITAL OPPORTUNITY FUND ("RDOF").

A. The F.C.C. established the RDOF in January 2020 to ensure continued and rapid deployment of broadband internet networks to rural areas of the United States. RDOF is a continuation of the federal government's commitment to provide funding support for the deployment of networks capable of providing broadband internet access to rural areas of the United States. RDOF funding was awarded through auction, similar to the Connect America Fund ("C.A.F.") and CAF II auctions in past years.

RDOF will commit up to $20.4 billion from the federal government to support the availability of internet networks in rural America that are unserved or underserved by internet speeds. RDOF offered funding for companies to provide internet connectivity at speeds of at least 25 Mbps download and 3 Mbps upload ("25/3").

Q. DID SPACEX PLACE BID IN THE RDOF AUCTION AND WERE THOSE BIDS SUCCESSFUL?

A. SpaceX was a successful bidder in Phase 1 of the RDOF auction. Phase 1 of RDOF targeted areas where Americans are wholly unserved by 25/3 broadband internet access. Support was awarded through a reverse auction that favored faster services with lower

latency. Auction participants submitted bids based on a combination of performance and latency requirements. The Phase 1 auction concluded on November 25, 2020 and awarded a total of $9.23 billion in support over ten years.

SpaceX was awarded $885 million of this support to provide broadband internet and standalone voice services to approximately 643,000 location in 35 states, including $6,163,912 to provide service to more than 4,287 locations in South Carolina. The F.C.C.'s RDOF Phase 1 Winning Bidder Summary and the F.C.C.'s RDOF Phase 1 State Results Summary is attached to Starlink's Application as Exhibit 2.

On December 22, 2020, pursuant to the process established by the F.C.C., SpaceX assigned its winning bids to Starlink Services.

Q. ARE RDOF WINNING BIDDERS REQUIRED TO OBTAIN REGULATORY APPROVAL FROM STATE COMMISSIONS IN WHICH THEY WILL PROVIDE SERVICE?

A. Yes. To receive the RDOF support, winning bidders must be designated as an E.T.C. for the states in which the bidder was awarded support funds. This Commission is the relevant authority to determine Starlink Services' eligibility for E.T.C. designation to provide services in South Carolina. To satisfy FCC requirements for RDOF support, Starlink must obtain ETC designation by June 7, 2021.

STARLINK MEETS THE REQUIREMENTS FOR ETC DESIGNATION

Q. PLEASE IDENTIFY STARLINK SERVICES' PROPOSED ETC SERVICE AREA.

A. Starlink Services requests ETC designation for the area encompassed by the census blocks for which it has been provisionally awarded RDOF support, as identified in Exhibit 3 hereto. I will refer to this as the "Service Area." A map of the Service Area is identified in Exhibit 4.

Q. PLEASE IDENTIFY THE REQUIREMENTS FOR ETC DESIGNATION.

A. 47 C.F.R. § 54.201(d) defines eligibility for RDOF support. To receive such support, 47 C.F.R. § 54.201(d) requires that a "common carrier" must (1) "[o]ffer the services that are supported by federal universal service support mechanisms," and (2) "[a]dvertise the availability of such services and the charges therefore using media of general distribution."

Q. DOES STARLINK SERVICES MEET ALL OF THE REQUIREMENTS TO BE DESIGNATED AS AN ETC?

A. As discussed in more detail below, Starlink Services meets all of the requirements to receive ETC designation.

Q. WILL STARLINK SERVICES OPERATE AS A "COMMON CARRIER"?

A. Yes. "Common Carrier" is defined in 47 U.S.C. § 153(11) as "any person engaged as a common carrier for hire, in interstate or foreign communication by wire or radio or interstate or foreign radio transmission of energy." For purposes of this designation, Starlink Services will provide broadband internet access service and standalone voice service to the public throughout the Service Area on a common carrier basis. Starlink

Services certifies that it is a common carrier under 47 U.S.C. § 214(e)(1) and 47 C.F.R. § 54.201(d) for purposes of ETC designation.

Q. WILL STARLINK SERVICES OFFER THE SUPPORTED SERVICES SET FORTH IN 47 C.F.R. § 54.101(a) EITHER BY USING ITS OWN FACILITIES OR A COMBINATION OF ITS OWN FACILITIES AND THE RESALE OF ANOTHER CARRIER'S SERVICES?

A. Yes. 47 C.F.R. § 54.101(a) identifies the services that are supported by federal universal service support mechanisms, stating that such services are "voice telephony services" and "broadband internet access service." 47 C.F.R. § 54.101(a)(1) identifies the characteristics of "voice telephony services" that a common carrier must provide. 47 C.F.R. § 54.101(a)(2) identifies the characteristics of "broadband internet access service" that a common carrier must provide.

Specifically, 47 C.F.R. § 101(a) states as follows:

> (a) *Services designated for support.* Voice telephony services and broadband service shall be supported by federal universal service support mechanisms.
>
> (1) Eligible voice telephony services must provide voice-grade access to the public switched network or its functional equivalent; minutes of use for local service provided at no additional charge to end users; access to the emergency services provided by local government or other public safety organizations, such as 911 and enhanced 911, to the extent the local government in an eligible carrier's service area has implemented 911 or enhanced 911 systems; and toll limitation services to qualifying low-income consumers as provided in subpart E of this part.
>
> (2) Eligible broadband Internet access services must provide the capability to transmit data to and receive data by wire or radio from all or substantially all Internet endpoints, including any capabilities that are

incidental to and enable the operation of the communications service, but excluding dial-up service.

As described in further detail below, Starlink Services will offer all of these services using its own facilities in the Service Area.

Starlink Services will satisfy the requirement for offering the services supported by RDOF throughout the Service Area using a combination of owned and leased facilities. As described above, Starlink Services—through SpaceX—is a facilities-based satellite provider with its own fleet of satellites, earth stations, gateways, switching facilities, and other associated facilities. Therefore, Starlink Services will offer the supported services using its own facilities or a combination of its own facilities and resale of another carrier's service.

Q. PLEASE DESCRIBE HOW STARLINK SERVICES WILL PROVIDE THE SUPPORTED SERVICES.

A. Starlink Services will offer the services supported by the universal service support mechanisms, as set forth in 47 C.F.R. § 54.101(a)(1) and (2).

<u>Eligible Voice Telephony Services</u>

Starlink Services will provide voice telephony services, including (a) voice-grade access to the public switched telephone network ("PSTN") or its functional equivalent; (b) minutes of use for local service provided at no additional charge to end users; (c) access to emergency services; and (d) toll limitations services to qualifying low-income consumers in accordance with 47 C.F.R. § 54.500, *et seq*.

(a) Voice-grade access to the PSTN

Starlink Services will provide voice-grade access to the PSTN by providing interconnected VoIP. Starlink Services is exploring avenues for the provision of voice services consistent with the requirements and goals of RDOF, including using a white-label managed service provider ("M.S.P.") voice platform that Starlink has certified to meet quality and performance standards exceeding those required by RDOF. In this baseline plan, Starlink Services would provide telephone services connecting consumers to its M.S.P.'s platform using its network capacity, which is available to consumers through their customer premises equipment. Consumers will have the option of using a third-party, conventional phone connected to a Session Initiation Protocol standards-compliant analog terminal adaptor or a native-IP phone selected from a list of certified models. Starlink will make available for purchase the terminal adaptor to customers who wish to utilize Starlink for voice services.

Starlink Services will continue to assess integrating alternative standalone voice applications into the Starlink network, including other third-party providers, or possibly developing its own proprietary solution. Starlink Services may adopt such approaches in the event that further testing demonstrates alternative solutions would provide a superior experience to the end use customer, or if we determine that the end use customer would benefit from the existence of multiple voice solutions to introduce competition and redundancy into the supply chain—all while fully complying with RDOF and E.T.C. requirements.

These solutions will enable Starlink Services to provide interconnected VoIP throughout the Service Area, sufficient for voice-grade access to the PSTN consistent with 47 C.F.R. § 54.101(a). As required by RDOF, Starlink Services will make available a standalone voice plan priced at prevailing market rates for the Service Area.

(b) Local service provided at no additional charge

Starlink Services will satisfy the requirement that it provide minutes of local service at no additional charge to end users. The F.C.C. has not specified a minimum amount of local usage that an E.T.C. must offer. Starlink will offer voice rate plans in the Service Area that include local calling at no additional charge and will comply with all applicable minimum local usage requirements adopted by the F.C.C. or this Commission.

(c) Access to emergency services

Starlink Services will satisfy the requirement that it provide access to the emergency services provided by local government or other public safety organizations, such as 911 and enhanced 911, to the extent the local government in the Service Area has implemented such emergency services.

(d) Toll limitation services to qualifying low-income consumers

Once designated as an E.T.C., Starlink Services will offer toll limitation services for qualifying low-income customers as required by F.C.C. rules, and will provide toll blocking service in accordance with 47 C.F.R. §§ 54.500, *et seq*.

<u>Broadband Internet Access Services</u>

Starlink Services will offer broadband internet access service with the capability to transmit data to, and receive data by wire or radio from, all or substantially all internet

endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up service. Starlink Services will offer broadband internet access service at rates that are reasonably comparable to rates offered in urban areas, as discussed further below.

Q. WILL STARLINK SERVICES PROVIDE LIFELINE TO QUALIFIED LOW-INCOME CONSUMERS?

A. As required by 47 C.F.R. § 54.405, Starlink Services will provide Lifeline to qualifying low-income consumers and publicize the availability of Lifeline service in a manner reasonably designed to reach those likely to qualify for the service.

Q. WILL STARLINK SERVICES ADVERTISE THE AVAILABILITY OF SUPPORTED SERVICES?

A. Pursuant to 47 U.S.C. § 214(e)(2) and 47 C.F.R. § 54.201(d), Starlink Services will advertise the availability and rates of each of the supported services detailed above and the availability of Lifeline benefits throughout its Service Area by media of general distribution.

Q. ARE THERE ADDITIONAL ELIGIBILITY CRITERIA THAT AN APPLICANT MUST SATISFY TO BE DESIGANTED AN ETC?

A. Yes. Starlink Services certifies that it satisfies the additional requirements for designation as an E.T.C. under Section 47 C.F.R. § 54.202.

Q. PLEASE DESCRIBE HOW STARLINK WILL SATISFY EACH OF THE ADDITIONAL ELIGIBILITY CRITERIA.

A. *Five-Year Plan*

Starlink Services certifies that it will provide service to the Service Area locations consistent with the deployment obligations associated with the receipt of RDOF support. Given these obligations, the F.C.C. has waived the requirement that winning bidders seeking an FCC ETC designation file a five-year service improvement plan. Accordingly, Starlink Services requests the Commission similarly waive the requirement for a five-year plan in light of the deployment obligations associated with the receipt of RDOF support, which are discussed below.

Compliance With Applicable Service Requirements

Starlink Services certifies that it will comply with the service requirements applicable to RDOF support that it receives, including the performance requirements and deployment milestones associated with RDOF support. Further, Starlink Services will comply with all applicable state and federal consumer protection and service quality standards associated with the receipt of RDOF support.

Winning bidders in the RDOF auction are required to commercially offer voice and broadband internet service consistent with certain milestones and speed and latency requirements. Consistent with this requirement, Starlink Services is required to offer service to 40% of the Service Area by the end of the third full calendar year following funding authorization, and 20% each year thereafter, resulting in 100% deployment to funded locations by the end of the sixth calendar year.

Ability to Remain Functional in Emergency Situations

Starlink Services has the ability to remain functional in emergency situations as required by F.C.C. rules. Specifically, Starlink Services' network has sufficient back-up

power to remain functional without an external power source, will be able to reroute traffic around damaged facilities, and is capable of managing traffic spikes resulting from emergency situations. At the user level, Starlink Services will offer several battery back-up options for an additional fee, including up to 24 hours of back-up for customer equipment that will enable the ability to make phone calls in the event of a power outage.

At the system level, Starlink is building redundancy into the network. For example, every user will have multiple satellites in view with which it can communicate. Additionally, every satellite will have multiple gateway sites in view with which it can communicate. The Starlink traffic routing system ensures that every user is served with bandwidth before users demanding more bandwidth get additional throughput assigned, which gives Starlink network robustness in the event of emergencies requiring high throughput.

Q. HAS STARLINK SERVICES BEEN SUBJECT TO A DENIAL OF FEDERAL BENEFITS UNDER THE ANTI-DRUG ABUSE ACT OF 1988?

A. As required by 47 C.F.R. § 1.2002, Starlink is not subject to a denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988.

Q. WILL STARLINK SERVICES PROVIDE SERVICE THROUGHOUT ITS ETC SERVICE AREA?

A. Starlink commits to provide the supported services discussed above throughout the Service Area. Starlink Services is required to demonstrate and certify its ability to serve 100% of the locations in the Service Area at the end of six (6) years.

PLANS AND PRICING

Q. PLEASE IDENTIFY THE PLANS AND PRICING THAT STARLINK SERVICES INTENDS TO OFFER FOR THE SUPPORTED SERVICES IN THE SERVICE AREA.

A. As required by RDOF guidelines, Starlink Services will provide the following services in the areas assigned to Starlink in the RDOF program at prices comparable to existing competitor services in established areas of South Carolina:

- **100 Mbps / 20 Mbps Low Latency Broadband Internet Service**. As defined in the RDOF program, Starlink Services' broadband internet service will provide each customer with the 100 Mbps of download throughput and 20 Mbps of upload throughput. Latency of the broadband internet service is below 100ms.
- **Voice Services**. Starlink Services will make available voice services either, at the customer's choosing, as an add-on to its broadband internet service or as a standalone offering.

STATE REQUIREMENTS

Q. WILL STARLINK SERVICES SATISFY SOUTH CAROLINA'S REQUIREMENTS FOR DESIGNATION AS AN ETC?

A. Yes. Starlink Services meets the requirements for E.T.C. designation of S.C. Code Reg. 103-690(C).

Q. WILL STARLINK SERVICES PROVIDE SERVICE THROUGHTOUT ITS PROPOSED DESIGNATED SERVICE AREA TO ALL CUSTOMERS MAKING A REASONABLE REQUEST FOR SERVICE?

A. Starlink Servicves will provide service throughout its proposed designated Service Area to all customers making a reasonable request for service, as required by S.C Code Reg. 103-690.C.(a)(1)(A). In accordance with the regulation, Starlink Services certifies that, as it completes the RDOF's network deployment milestones it will provide service on a timely basis to requesting customers within its Service Area where Starlink's network already passes the potential customer's premises.

Q. WILL STARLINK SERVICES SUBMIT THE TWO YEAR PLAN REQUIRED BY S.C CODE REG. 103-690.C.(A)1.B?

A. Starlink requests a waiver of the requirement to submit a two year plan pursuant to S.C Code Reg. 103-690.C.(a).(1).(B). A waiver of the requirement would be consistent with F.C.C. treatment of an E.T.C. designated for RDOF purposes. The F.C.C. has waived the requirement to submit a five-year investment plan per 47 C.F.R. § 54.202(a)(1)(ii) for RDOF support recipients.

Q. IS STARLINK SERVICES ABLE TO REMAIN FUNCTIONAL IN EMERGENCY SITUATIONS?

A: Yes, as I have explained in my testimony, Starlink Services will be able to remain functional in emergency situations as required by S.C. Code Reg. 103-690.C.(a)(2).

Q. WILL STARLINK SERVICES SATISFY APPLICABLE CONSUMER PROTECTION AND SERVICE QUALITY STANDARDS?

A. Starlink will satisfy applicable consumer protection and service quality standards, as explained in my testimony, in compliance with S.C Code Reg. 103-690.C.(a)(3). Starlink Services certifies it will comply with applicable service quality standards and consumer

protection rules, including complying with Lifeline service standards pursuant to 47 C.F.R. § 54.408, including minimum broadband speed requirements, data usage allowance, and accessibility to Wi-Fi devices.

Q. WILL STARLINK SERVICES OFFER A LOCAL USAGE PLAN COMPARABLE TO THE ONE OFFERED BY THE INCUMBENT LEC IN THE SERVICE AREAS FOR WHICH IT SEEKS DESIGNATION?

A. Starlink Services will offer a local usage plan at no additional charge to end users. Starlink Services believes the bundled calling plans it will offer are comparable to those offered by the ILECs in the area where it seeks E.T.C. designation and therefore complies with S.C. Code Reg. 103-690.C.(a)(4).

Q. HAS STARLINK PROVIDED THE AFFIDAVIT REQUIRED BY S.C CODE REG. 103.C.(A)(5)-(7)?

A. The Affidavit of R. Edward Price, Senior Counsel for SpaceX is attached as Exhibit A to this testimony.

PUBLIC INTEREST

Q. WILL GRANT OF THIS APPLICATION SERVE THE PUBLIC INTEREST?

A. Yes. Granting Starlink Services' request for an E.T.C. designation for purposes of receiving RDOF support will serve the public interest. Starlink Services submits that granting this Application will: (1) promote the rapid deployment of advanced services to unserved and unserved areas in South Carolina in an efficient manner; (2) ensure that RDOF support is used efficiently and effectively with minimal impact to the size of the

fund; and (3) provide customers in the Service Area a choice of service that is currently not available and not likely to be available absent the grant of this Application.

In the context of RDOF, the F.C.C. required that bidders demonstrate their ability to efficiently offer services through the competitive bidding process, while in their short and long form applications, bidders demonstrate their ability to meet their public interest obligations. Through such a process, the F.C.C. conducts the cost benefit analysis for E.T.C. designation. Therefore, carriers need not provide additional specific evidence of service to the public interest in their petitions for E.T.C. designation.

It is further notable that the RDOF is part of an ongoing effort to bridge the digital divide in rural America and focus limited universal service funds on unserved areas that need the most support. RDOF Phase 1 prioritized the areas of the United States where Americans' access to low latency high speed internet access is the most limited. This includes the portion of South Carolina that comprises the Service Area at issue in Starlink's Application. Starlink Services was identified as the winning bidder in the Service Area and looks forward to bringing high speed broadband internet access service to these unserved and underserved areas of South Carolina.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.